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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,533	12/17/2001	Danping Li	LA0061 NP	5618

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EXAMINER

KWON, BRIAN YONG S

ART UNIT	PAPER NUMBER
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1614

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,533

Applicant(s)

LI ET AL.

Examiner

Brian S Kwon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) 4-10 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 and 11-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

1. By an amendment filed on February 23, 2004, claim 1 has been amended. Claims 1-3 and 11-16 are currently pending for prosecution on the merits.
2. Applicant's amendment narrowing the scope of the claimed invention (insertion of "from 2 to 3% by weight moisture" and "said metformin is compressible, said composition being devoid of an enteric coating" necessitates a new ground of rejection(s) in this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 fails to further limit the subject matter of the claim 1 in which claim 3 ultimately depends upon. The newly amended claim 1 contains a negative proviso, "said composition being devoid of an enteric coating". In other words, the claimed composition excludes any possibility of having "enteric coating" on the outer surface of the single dosage formulation (e.g., tablet). However, applicants' recitation of "an outer protective coating or finishing layer surrounding said tablet" in claim 3 broadens out the scope of the claim 1 rather than further limiting the subject matter of the claim 1. The scope of "an outer protective coating or finishing layer surrounding said tablet" encompasses "enteric coating" as well as other types of coating

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techniques (e.g., seal coating, film coatings, barrier coatings, compress coatings, fast disintegrating coatings, or enzyme degradable coatings) that are known in the arts. This inconsistency leaves the reader in doubt as to the meaning of the invention to which they refer, thereby rendering the definition of the subject-matter of said claims unclear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6099862) in view of Patel et al. (US 6248363 B1).

Chen teaches a pharmaceutical tablet containing combination of metformin and glipizide, wherein core of said composition is prepared by mixing metformin and glipizide with povidone, sodium lauryl sulfate and magnesium stearate and then table is optionally seal coated with an opadry materials. As specific embodiments of the claimed invention, Examples (1-2) discloses 850mg or 500mg of metformin HCl and 5 mg of glipizide controlled release tablet, wherein granules containing metformin and glipizide are dried “in the fluidized bed coater until the loss on drying is less than 2%” and then compressed to tablet. However, Chen is silent about the claimed “being devoid of an enteric coating”; “2 to 3% by weight moisture”; and the specific dosage amounts of metformin and glipizide in said composition.

However, it would have been obvious in view of Patel (US 6248363 B1) who teaches pharmaceutical delivery systems for pharmaceutical active ingredients including metformin and glipizide, wherein said active ingredients can be prepared in various dosage forms (e.g., tablet, capsule, quick or fast dissolving tablet, granule, etc...); coated with various coating methods (e.g., enteric coating, seal coating, protected coating or layered coating, etc...); and dosage form release system (e.g., immediate release, pulsatile release, controlled release, extended release, delayed release, targeted release). See column 6, line 32; column 7, line 7; column 9, line 3 and 66; column 10, line 31; column 41, line 29 thru column 51, line 10.

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With respect to the instantly required “devoid of an enteric coating”, Patel teaches that determination of appropriate dosage forms (e.g., tablet covered with enteric coating or with protective coating or finishing layer) having optimum therapeutic index is well considered within the skill of the artisan, and the artisan would be motivated to determine optimum dosage forms to maximize the effects of the drug. Therefore, the references in combination make obvious the claimed invention.

With respect to the “from 2 to 3% by weight moisture”, the prior art does not disclose the instantly required moisture concentration. However, one having ordinary skill in the art would have expected at the time the invention was made that the weight moisture would have been characteristic of the modified prior art method. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art there is evidence indicating such concentration is critical. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.

With respect to the specific dosage amounts of active ingredients in said composition, those of ordinary skill in the art readily optimize effective dosages as determined by good medical practice and the clinical condition of the individual patient. Regardless of the manner of administration, the specific dose may be calculated according to body weight, body surface area or organ size. Further refinement of the calculations necessary to determine the appropriate dosage for treatment involving each of the above mentioned formulations is routinely made by those of ordinary skill in the art and is within the ability of tasks routinely performed by them

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without undue experimentation, especially in light of the dosage information in column 5, lines 1-15.

The above references in combination make clear that the combination of metformin and glipizide in single dosage formulation is old and well known in the art. The above references in combination also make clear that the preparation of pharmaceutical composition containing metformin and/or glipizide in various dosage forms (e.g., tablet, quick, fast dissolving tablet, capsule, etc...) coated with coating techniques (e.g., enteric coating, protective coating, seal coating, etc...) designed for various dosage form release systems (e.g., immediate release, controlled release, delayed release, etc...) is old and well known in the art. One would have been motivated to combine these references and make the modification because they are drawn to same technical fields (constituted with same ingredients and share common utilities), and pertinent to the problem which applicant concerns about. MPEP 2141.01(a).

Response to Arguments

5. Applicant's arguments filed February 23, 2004 have been fully considered but they are not persuasive.

Applicant's argument takes position that applicant's tablets are devoid of an enteric coating and therefore are immediate release tablets. Applicant alleges that the Chen's sustained release tablets differ from the instantly claimed immediate release tablets.

Unlike applicant's assertion, there is no indication in the present claims, however that said composition must be in the form of immediate release tablets. Applicant's recitation of "being devoid of an enteric coating" does not render the claimed composition to be essentially in

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the form of immediate release tablet. Since the interpretation of “being devoid of an enteric coating” means other types of known coating techniques of pharmaceutical compositions (e.g., seal coating, film coatings, barrier coatings, compress coatings, fast disintegrating coatings, or enzyme degradable coatings) designed for diverse dosage delivery forms, for example immediate release, pulsatile release, controlled release, extended release, delayed release, targeted release, synchronized release, or targeted delayed release (see column 41, lines 55-63 of US 6248363), Chen’s formulation makes obvious the claimed invention.

Even if applicant’s argument is found persuasive, determination of appropriate dosage forms (e.g., tablet covered with enteric coating or with protective coating or finishing layer) having optimum therapeutic index is well considered within the skill of the artisan as evidenced by Patel et al. (US 6248363).

Applicant’s argument takes position that there is no disclosure or suggestion in Chen et al. of “2 to 3% moisture” of tablet. The examiner agrees. Chen discloses that the granules containing metformin and glipizide are “dried in the fluidized bed coater until the loss on drying is less than 2%” prior to “tableting”. Although Chen’s formulation containing “less than 2%” of moisture differs from the instantly required concentration of “2 to 3% moisture”, the examiner determines that such differences in concentration will not support the patentability of subject matter encompassed by the prior art there is evidence indicating such concentration is critical. Since no technical difficulty of compressing metformin and glipizide granules to tablet, nor problem with glipizide being hydrolyzed at “less than 2%” of moisture was observed in the

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Chen, absent showing unexpected results or unobvious results, it would have been obvious to a person having ordinary skill in the art to optimize “less than 2%” to “2 to 3% moisture”.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. No Claim is allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Kwon whose telephone number is (571) 272-0581. The examiner can normally be reached Tuesday through Friday from 9:00 am to 7:00pm.

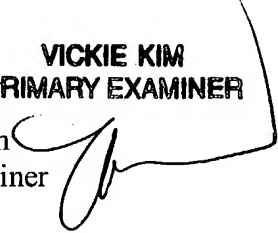
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached on (571) 272-0951. The fax number for this Group is (703) 872-9306.

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Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

VICKIE KIM
PRIMARY EXAMINER

Brian Kwon
Patent Examiner
AU 1614

A handwritten signature in black ink, appearing to be 'Brian Kwon', is written over the printed name and title. The signature is fluid and cursive, with a long horizontal stroke extending to the right.